

CONTAINS NO CBI



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EPA-OTS



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OTS DOCUMENT CONTROL  
OFFICE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Comprehensive Assessment Information Rule  
REPORTING FORM

When completed, send this form to:

Document Processing Center  
Office of Toxic Substances, TS-790  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, DC 20460  
Attention: CAIR Reporting Office

For Agency Use Only:

Date of Receipt: \_\_\_\_\_

Document  
Control Number: \_\_\_\_\_

Docket Number: \_\_\_\_\_

SECTION 1 GENERAL MANUFACTURER, IMPORTER, AND PROCESSOR INFORMATION

PART A GENERAL REPORTING INFORMATION

1.01 This Comprehensive Assessment Information Rule (CAIR) Reporting Form has been completed in response to the Federal Register Notice of..... [1][2] [2][2] [8][8]  
CBI mo. day year

☐ a. If a Chemical Abstracts Service Number (CAS No.) is provided in the Federal Register, list the CAS No. .... [2][6][4][7][7]-[6][2]-[5]

b. If a chemical substance CAS No. is not provided in the Federal Register, list either (i) the chemical name, (ii) the mixture name, or (iii) the trade name of the chemical substance as provided in the Federal Register.

(i) Chemical name as listed in the rule ..... Toluene Diisocyanate

(ii) Name of mixture as listed in the rule .... —

(iii) Trade name as listed in the rule ..... —

c. If a chemical category is provided in the Federal Register, report the name of the category as listed in the rule, the chemical substance CAS No. you are reporting on which falls under the listed category, and the chemical name of the substance you are reporting on which falls under the listed category.

Name of category as listed in the rule ..... —

CAS No. of chemical substance ..... [ ][ ][ ][ ][ ][ ]-[ ][ ]-[ ]

Name of chemical substance ..... —

1.02 Identify your reporting status under CAIR by circling the appropriate response(s).

CBI Manufacturer ..... 1

☐ Importer ..... 2

Processor ..... ③

X/P manufacturer reporting for customer who is a processor ..... 4

X/P processor reporting for customer who is a processor ..... 5

☐ Mark (X) this box if you attach a continuation sheet.

1.03 Does the substance you are reporting on have an "x/p" designation associated with it in the above-listed Federal Register Notice?

CBI

☐ Yes ..... ☒ Go to question 1.04

☐ No ..... ☐ Go to question 1.05

1.04 a. Do you manufacture, import, or process the listed substance and distribute it under a trade name(s) different than that listed in the Federal Register Notice? Circle the appropriate response.

CBI

☐ Yes ..... 1

☐ No ..... 2

b. Check the appropriate box below:

☐ You have chosen to notify your customers of their reporting obligations

Provide the trade name(s) ....

☐ You have chosen to report for your customers

☐ You have submitted the trade name(s) to EPA one day after the effective date of the rule in the Federal Register Notice under which you are reporting.

1.05 If you buy a trade name product and are reporting because you were notified of your reporting requirements by your trade name supplier, provide that trade name.

CBI

☐ Trade name .....

☐ Is the trade name product a mixture? Circle the appropriate response.

Yes ..... 1

No ..... 2

1.06 Certification -- The person who is responsible for the completion of this form must sign the certification statement below:

CBI

☐ "I hereby certify that, to the best of my knowledge and belief, all information entered on this form is complete and accurate."

David M. Feiglstok  
NAME

David M. Feiglstok  
SIGNATURE

6/9/89  
DATE SIGNED

Sr. Specialist - Safety, Fire & Health  
TITLE

(415) 894 - 1708  
TELEPHONE NO.

☐ Mark (X) this box if you attach a continuation sheet.

## 1.09 Facility Identification

[illegible]

Street

Q171214015

City

[C]A [9]4[B]0[Z]--[ ] [ ] [ ] [ ]

## State

**Zip**

Dun & Bradstreet Number ..... N/A ..... [ ]-[ ]-[ ]

EPA ID Number ..... CAD..... 00-9114191791

Employer ID Number .....[1][2][6][3][7][6][0][4]

Primary Standard Industrial Classification (SIC) Code .....[2][9][9][2]

Other SIC Code .....[ ][ ][ ][ ]

Other SIC Code .....( ) ( ) ( ) ( )

### 1.10 Company Headquarters Identification

[illegible]

[ ] Address [5][7][5] [M][A][R][K][E][T] [S][T][R][E][E][T]

**Street**

[S][A][N] [F][R][A][N][C][I][S][C][O] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

City

$$[\underline{C}][\underline{A}] \quad [\underline{9}][\underline{4}][\underline{1}][\underline{0}][\underline{5}]--[\underline{2}][\underline{8}][\underline{5}][\underline{6}]$$

## State

**Zip**

Dun &amp; Bradstreet Number .....[0][0]-[9][7][4]-[0][5][5][9]

Employer ID Number .....[1][7][6][3][7][6][0][4]

☐ Mark (X) this box if you attach a continuation sheet.

1.16 For each classification listed below, state the quantity of the listed substance that was manufactured, imported, or processed at your facility during the reporting year.

CBI

☐

Classification

Quantity (kg/yr)

Manufactured .....                     

Imported .....                     

Processed (include quantity repackaged) ..... 76017

Of that quantity manufactured or imported, report that quantity:

In storage at the beginning of the reporting year .....                     

For on-site use or processing .....                     

For direct commercial distribution (including export) .....                     

In storage at the end of the reporting year .....                     

Of that quantity processed, report that quantity:

In storage at the beginning of the reporting year ..... 15272

Processed as a reactant (chemical producer) ..... 76017

Processed as a formulation component (mixture producer) ..... 0

Processed as an article component (article producer) ..... 0

Repackaged (including export) ..... 0

In storage at the end of the reporting year ..... 13607

☐ Mark (X) this box if you attach a continuation sheet.

2.04 State the quantity of the listed substance that your facility manufactured, imported, or processed during the 3 corporate fiscal years preceding the reporting year in descending order.

CBI

☐ Year ending ..... [~~1~~][~~2~~] [~~8~~][~~7~~]  
Mo. Year

Quantity manufactured ..... 0 kg

Quantity imported ..... 0 kg

Quantity processed ..... 76502 kg

Year ending ..... [~~1~~][~~2~~] [~~8~~][~~6~~]  
Mo. Year

Quantity manufactured ..... 0 kg

Quantity imported ..... 0 kg

Quantity processed ..... 67,994 kg

Year ending ..... [~~1~~][~~2~~] [~~8~~][~~5~~]  
Mo. Year

Quantity manufactured ..... 0 kg

Quantity imported ..... 0 kg

Quantity processed ..... 56,880 kg

2.05 Specify the manner in which you manufactured the listed substance. Circle all appropriate process types.

CBI

☐ Continuous process ..... 1

Semicontinuous process ..... 2

☒ Batch process ..... 3

☐ Mark (X) this box if you attach a continuation sheet.

2.06 Specify the manner in which you processed the listed substance. Circle all appropriate process types.

- ☒ Continuous process ..... 1
- ☐ Semicontinuous process ..... 2
- ☒ Batch process ..... ③

2.07 State your facility's name-plate capacity for manufacturing or processing the listed substance. (If you are a batch manufacturer or batch processor, do not answer this question.)

☐ Manufacturing capacity ..... kg/yr

☒ Processing capacity ..... N/A kg/yr

2.08 If you intend to increase or decrease the quantity of the listed substance manufactured, imported, or processed at any time after your current corporate fiscal year, estimate the increase or decrease based upon the reporting year's production volume.

	Manufacturing Quantity (kg)	Importing Quantity (kg)	Processing Quantity (kg)
<input checked="" type="checkbox"/> Amount of increase	<u>0</u>	<u>0</u>	<u>0</u>
<input checked="" type="checkbox"/> Amount of decrease	<u>0</u>	<u>0</u>	<u>0</u>

☐ Mark (X) this box if you attach a continuation sheet.

2.09 For the three largest volume manufacturing or processing process types involving the listed substance, specify the number of days you manufactured or processed the listed substance during the reporting year. Also specify the average number of hours per day each process type was operated. (If only one or two operations are involved, list those.)

CBI

☐

Days/Year      Average  
Hours/Day

Process Type #1 (The process type involving the largest quantity of the listed substance.)

Manufactured .....

Processed .....

330

16

Process Type #2 (The process type involving the 2nd largest quantity of the listed substance.)

Manufactured .....

N/A

Processed .....

Process Type #3 (The process type involving the 3rd largest quantity of the listed substance.)

Manufactured .....

N/A

Processed .....

2.10 State the maximum daily inventory and average monthly inventory of the listed substance that was stored on-site during the reporting year in the form of a bulk chemical.

CBI

☐

Maximum daily inventory .....

35,000 kg

Average monthly inventory .....

15,000 kg

☐ Mark (X) this box if you attach a continuation sheet.



**2.12 Existing Product Types** -- List all existing product types which you manufactured, imported, or processed using the listed substance during the reporting year. List the quantity of listed substance you use for each product type as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to ☐ the instructions for further explanation and an example.)

CBI

a.	b.	c.	d.
Product Types <sup>1</sup>	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-Users <sup>2</sup>
H	1.38% → 3.78%	100%	I

<sup>1</sup>Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

<sup>2</sup>Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

**2.13 Expected Product Types** -- Identify all product types which you expect to manufacture, import, or process using the listed substance at any time after your current corporate fiscal year. For each use, specify the quantity you expect to manufacture, import, or process for each use as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI

☐

a.	b.	c.	d.
Product Types <sup>1</sup>	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-Users <sup>2</sup>
H	1.38% → 3.78%	100%	I

<sup>1</sup>Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelant/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

<sup>2</sup>Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

2.14 Final Product -- Complete the following table for each type of final product manufactured, imported, or processed at your facility that contains the listed substance other than as an impurity.

☐

a.	b.	c. Average 2, Composition of Listed Substance in Final Product	d. Type of End-Users <sup>3</sup>
Product Type <sup>1</sup>	Final Product's Physical Form <sup>2</sup>		
N/A	N/A	N/A	N/A

<sup>1</sup>Use the following codes to designate product types:

- |  |   |
|--|---|
| A = Solvent  | L = Moldable/Castable/Rubber and additives              |
| B = Synthetic reactant                             | M = Plasticizer   |
| C = Catalyst/Initiator/Accelerator/<br>Sensitizer  | N = Dye/Pigment/Colorant/Ink and additives              |
| D = Inhibitor/Stabilizer/Scavenger/<br>Antioxidant | O = Photographic/Reprographic chemical<br>and additives |
| E = Analytical reagent                             | P = Electrodeposition/Plating chemicals                 |
| F = Chelator/Coagulant/Sequestrant                 | Q = Fuel and fuel additives                             |
| G = Cleanser/Detergent/Degreaser                   | R = Explosive chemicals and additives                   |
| H = Lubricant/Friction modifier/Antiwear<br>agent  | S = Fragrance/Flavor chemicals                          |
| I = Surfactant/Emulsifier                          | T = Pollution control chemicals                         |
| J = Flame retardant                                | U = Functional fluids and additives                     |
| K = Coating/Binder/Adhesive and additives          | V = Metal alloy and additives                           |
|  | W = Rheological modifier                                |
|  | X = Other (specify) _____                               |

<sup>2</sup>Use the following codes to designate the final product's physical form:

- |                      |                           |
|----------------------|---------------------------|
| A = Gas              | F2 = Crystalline solid    |
| B = Liquid           | F3 = Granules             |
| C = Aqueous solution | F4 = Other solid          |
| D = Paste            | G = Gel                   |
| E = Slurry           | H = Other (specify) _____ |
| F1 = Powder          |                           |

<sup>3</sup>Use the following codes to designate the type of end-users:

- |                 |                           |
|-----------------|---------------------------|
| I = Industrial  | CS = Consumer             |
| CM = Commercial | H = Other (specify) _____ |

☐ Mark (X) this box if you attach a continuation sheet.

2.15 Circle all applicable modes of transportation used to deliver bulk shipments of the listed substance to off-site customers.

- ☐ Truck ..... N/A ..... 1
- Railcar ..... 2
- Barge, Vessel ..... 3
- Pipeline ..... 4
- Plane ..... 5
- Other (specify) \_\_\_\_\_ 6

2.16 Customer Use -- Estimate the quantity of the listed substance used by your customers or prepared by your customers during the reporting year for use under each category of end use listed (i-iv).

☐

Category of End Use

i. Industrial Products

Chemical or mixture ..... N/A ..... kg/yr

Article ..... kg/yr

ii. Commercial Products

Chemical or mixture ..... kg/yr

Article ..... kg/yr

iii. Consumer Products

Chemical or mixture ..... kg/yr

Article ..... kg/yr

iv. Other

Distribution (excluding export) ..... kg/yr

Export ..... kg/yr

Quantity of substance consumed as reactant ..... kg/yr

Unknown customer uses ..... kg/yr

☐ Mark (X) this box if you attach a continuation sheet.

# SECTION 3 PROCESSOR RAW MATERIAL IDENTIFICATION

## PART A GENERAL DATA

- 3.01** Specify the quantity purchased and the average price paid for the listed substance for each major source of supply listed. Product trades are treated as purchases.  
**CBI** The average price is the market value of the product that was traded for the listed substance.

☐

Source of Supply

Quantity  
(kg)

Average Price  
(\$/kg)

The listed substance was manufactured on-site.

The listed substance was transferred from a different company site.

☒ The listed substance was purchased directly from a manufacturer or importer.

76,017 \$0.53/kg

The listed substance was purchased from a distributor or repackager.

The listed substance was purchased from a mixture producer.

- 3.02** Circle all applicable modes of transportation used to deliver the listed substance to your facility.  
**CBI**

☐

- ☒ Truck ..... 1  
 Railcar ..... 2  
 Barge, Vessel ..... 3  
 Pipeline ..... 4  
 Plane ..... 5  
 Other (specify) \_\_\_\_\_ 6

☐ Mark (X) this box if you attach a continuation sheet.

3.03  
CBI

a. Circle all applicable containers used to transport the listed substance to your facility.

- ☐ Bags ..... 1
- ☐ Boxes ..... 2
- ☐ Free standing tank cylinders ..... 3
- ☐ Tank rail cars ..... 4
- ☐ Hopper cars ..... 5
- ☐ Tank trucks ..... 6
- ☐ Hopper trucks ..... 7
- ☒ Drums ..... 8
- ☐ Pipeline ..... 9
- ☐ Other (specify) \_\_\_\_\_ 10

b. If the listed substance is transported in pressurized tank cylinders, tank rail cars, or tank trucks, state the pressure of the tanks.

Tank cylinders ..... N/A ..... mmHg

Tank rail cars ..... \_\_\_\_\_ mmHg

Tank trucks ..... \_\_\_\_\_ mmHg

☐ Mark (X) this box if you attach a continuation sheet.

**PART B RAW MATERIAL IN THE FORM OF A MIXTURE**

**1.04** If you obtain the listed substance in the form of a mixture, list the trade name(s) of the mixture, the name of its supplier(s) or manufacturer(s), an estimate of the average percent composition by weight of the listed substance in the mixture, and the amount of mixture processed during the reporting year.

[ ]

<u>Trade Name</u>	<u>Supplier or Manufacturer</u>	<u>Average % Composition by Weight (specify <math>\pm</math> % precision)</u>	<u>Amount Processed (kg/yr)</u>
<u>Toluene diisocyanate</u>	<u>Rubicon Chemicals</u>	<u>100%</u>	<u>76,017</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>

☐ Mark (X) this box if you attach a continuation sheet.

PART C RAW MATERIAL VOLUME

☒ State the quantity of the listed substance used as a raw material during the reporting year in the form of a class I chemical, class II chemical, or polymer, and the percent composition, by weight, of the listed substance.

☐

	Quantity Used (kg/yr)	% Composition by Weight of Listed Sub- stance in Raw Material (specify $\pm$ % precision)
Class I chemical	76,017	100%
Class II chemical		
Polymer		

☐ Mark (X) this box if you attach a continuation sheet.



4.03 Submit a copy or reasonable facsimile of any hazard information (other than an MSDS) that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response.

Yes ..... 1  
No ..... (2)

4.04 For each activity that uses the listed substance, circle all the applicable number(s) corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for manufacturing, storage, disposal and transport activities are determined using the final state of the product.

CBI

[ ]

Activity	Physical State				
	Solid	Slurry	Liquid	Liquified Gas	Gas
Manufacture	1	2	3	4	5
Import	1	2	3	4	5
Process	1	2	(3)	4	5
Store	1	2	(3)	4	5
Dispose	(1)	2	3	4	5
Transport	(1)	2	(3)	4	5

[ ] Mark (X) this box if you attach a continuation sheet.

SECTION 7 MANUFACTURING AND PROCESSING INFORMATION

General Instructions:

For questions 7.04-7.06, provide a separate response for each process block flow diagram provided in questions 7.01, 7.02, and 7.03. Identify the process type from which the information is extracted.

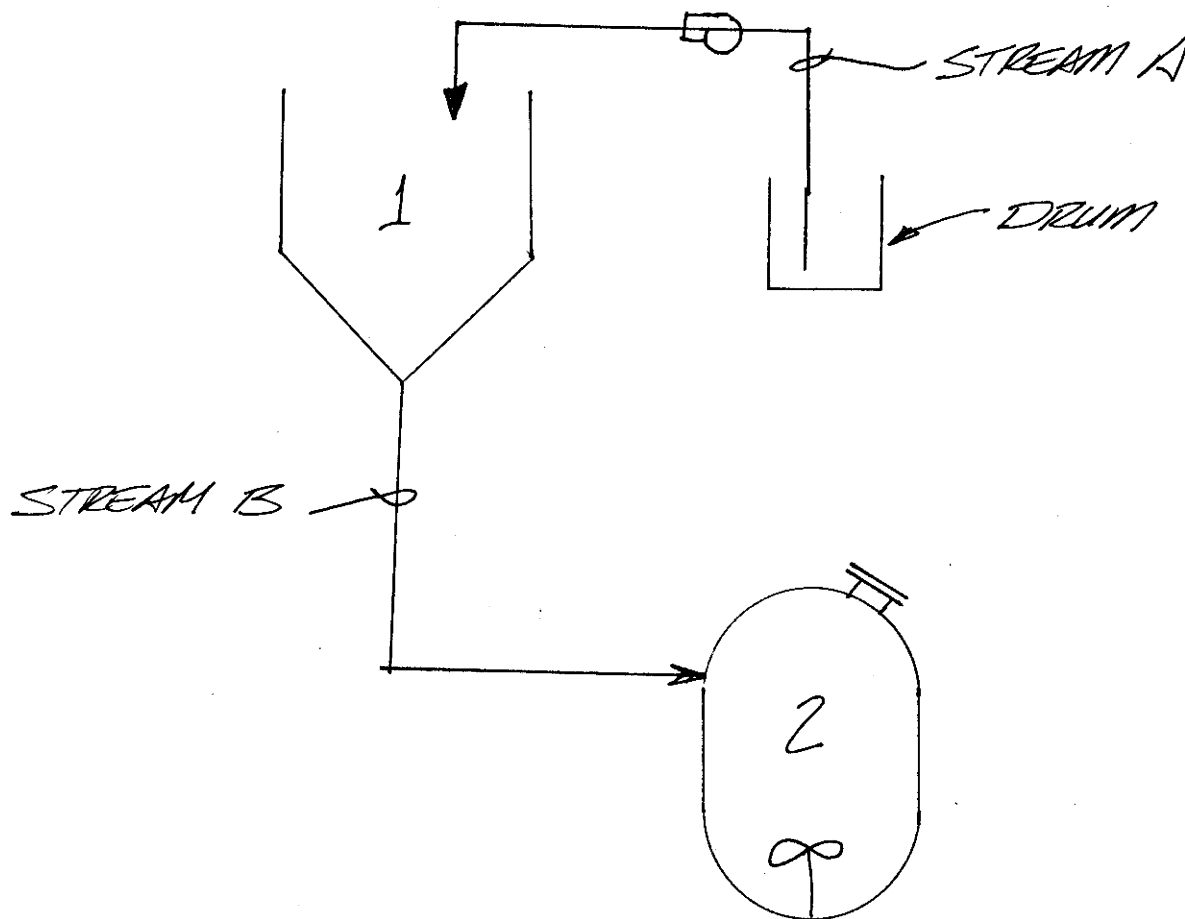
PART A MANUFACTURING AND PROCESSING PROCESS TYPE DESCRIPTION

7.01 In accordance with the instructions, provide a process block flow diagram showing the major (greatest volume) process type involving the listed substance.

CBI

☐ Process type .....

*Grease Manufacturing - Batch*



☐ Mark (X) this box if you attach a continuation sheet.

04 Describe the typical equipment types for each unit operation identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... Grease Manufacturing - Batch

Unit Operation ID Number	Typical Equipment Type	Operating Temperature Range (°C)	Operating Pressure Range (mm Hg)	Vessel Composition
<u>1</u>	<u>TANK</u>	<u>20°C</u> <u>AMBIENT</u>	<u>ATMOSPHERIC</u>	<u>STAINLESS STL.</u>
<u>2</u>	<u>MIXER</u>	<u>51°C - 134°C</u>	<u>ATMOSPHERIC</u>	<u>CARBON STL.</u>

☐ Mark (X) this box if you attach a continuation sheet.

05 Describe each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... Grease Manufacturing

Process Stream ID Code	Process Stream Description	Physical State <sup>1</sup>	Stream Flow (kg/yr)
<u>A</u>	<u>FEED FROM DRUM TO TANK</u>	<u>OL</u>	<u>76,017</u>
<u>B</u>	<u>FEED FROM TANK TO MIXER</u>	<u>OL</u>	<u>76,017</u>

<sup>1</sup>Use the following codes to designate the physical state for each process stream:

- GC = Gas (condensable at ambient temperature and pressure)
- GU = Gas (uncondensable at ambient temperature and pressure)
- SO = Solid
- SY = Sludge or slurry
- AL = Aqueous liquid
- OL = Organic liquid
- IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

☐ Mark (X) this box if you attach a continuation sheet.

**7.06** Characterize each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the CBI instructions for further explanation and an example.)

☐ Process type ..... Grease Manufacturing - Batch

a.	b.	c.	d.	e.
Process Stream ID Code	Known Compounds <sup>1</sup>	Concentrations <sup>2,3</sup> (% or ppm)	Other Expected Compounds	Estimated Concentrations (% or ppm)
<u>A</u>	<u>TOLUENE Diisocyanate</u>	<u>100%</u>	<u>0</u>	<u>—</u>
<u>B</u>	<u>TOLUENE Diisocyanate</u>	<u>11-15%</u>	<u>0</u>	<u>0</u>
	<u>SOD Neutral Oil</u>	<u>85-89%</u>	<u>0</u>	<u>0</u>

7.06 continued below

☐ Mark (X) this box if you attach a continuation sheet.

# PART A EMPLOYMENT AND POTENTIAL EXPOSURE PROFILE

9.01 Mark (X) the appropriate column to indicate whether your company maintains records on the following data elements for hourly and salaried workers. Specify for each data element the year in which you began maintaining records and the number of years the records for that data element are maintained. (Refer to the instructions for further explanation and an example.)

☐ CBI

Data Element	Data are Maintained for:		Year in Which Data Collection Began	Number of Years Records Are Maintained
	Hourly Workers	Salaried Workers		
Date of hire	<u>X</u>	<u>X</u>	<u>1970</u>	<u>Indefinitely</u>
Age at hire	<u>X</u>	<u>X</u>	<u>1970</u>	<u>"</u>
Work history of individual before employment at your facility	<u>N/A</u>			
Sex	<u>X</u>	<u>X</u>	<u>1970</u>	<u>"</u>
Race	<u>X</u>	<u>X</u>	<u>1970</u>	<u>"</u>
Job titles	<u>X</u>	<u>X</u>	<u>1970</u>	<u>"</u>
Start date for each job title	<u>X</u>	<u>X</u>	<u>1970</u>	<u>"</u>
End date for each job title	<u>X</u>	<u>X</u>	<u>1970</u>	<u>"</u>
Work area industrial hygiene monitoring data	<u>X</u>	<u>X</u>	<u>1970</u>	<u>30 yrs</u>
Personal employee monitoring data	<u>X</u>	<u>X</u>	<u>1970</u>	<u>30 yrs</u>
Employee medical history	<u>X</u>	<u>X</u>	<u>1970</u>	<u>Indefinitely</u>
Employee smoking history	<u>X</u>	<u>X</u>	<u>1970</u>	<u>Indefinitely</u>
Accident history	<u>X</u>	<u>X</u>	<u>1970</u>	<u>Indefinitely</u>
Retirement date	<u>X</u>	<u>X</u>	<u>1970</u>	<u>Indefinitely</u>
Termination date	<u>X</u>	<u>X</u>	<u>1970</u>	<u>Indefinitely</u>
Vital status of retirees	<u>X</u>	<u>X</u>	<u>1970</u>	<u>Indefinitely</u>
Cause of death data	<u>X</u>	<u>X</u>	<u>1970</u>	<u>Indefinitely</u>

☐ Mark (X) this box if you attach a continuation sheet.

9.02

In accordance with the instructions, complete the following table for each activity in which you engage.

CBI

☐

a.	b.	c.	d.	e.
<u>Activity</u>	<u>Process Category</u>	<u>Yearly Quantity (kg)</u>	<u>Total Workers</u>	<u>Total Worker-Hours</u>
Manufacture of the listed substance	Enclosed	_____	_____	_____
	Controlled Release	_____	_____	_____
	Open	_____	_____	_____
On-site use as reactant	Enclosed	_____	_____	_____
	Controlled Release	_____	_____	_____
	Open	76,017	15	5280
On-site use as nonreactant	Enclosed	_____	_____	_____
	Controlled Release	_____	_____	_____
	Open	_____	_____	_____
On-site preparation of products	Enclosed	_____	_____	_____
	Controlled Release	_____	_____	_____
	Open	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

03

Provide a descriptive job title for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance.

CBI

☐

Labor Category

Descriptive Job Title

A

GREASE MAKER

B

C

D

E

F

G

H

I

J

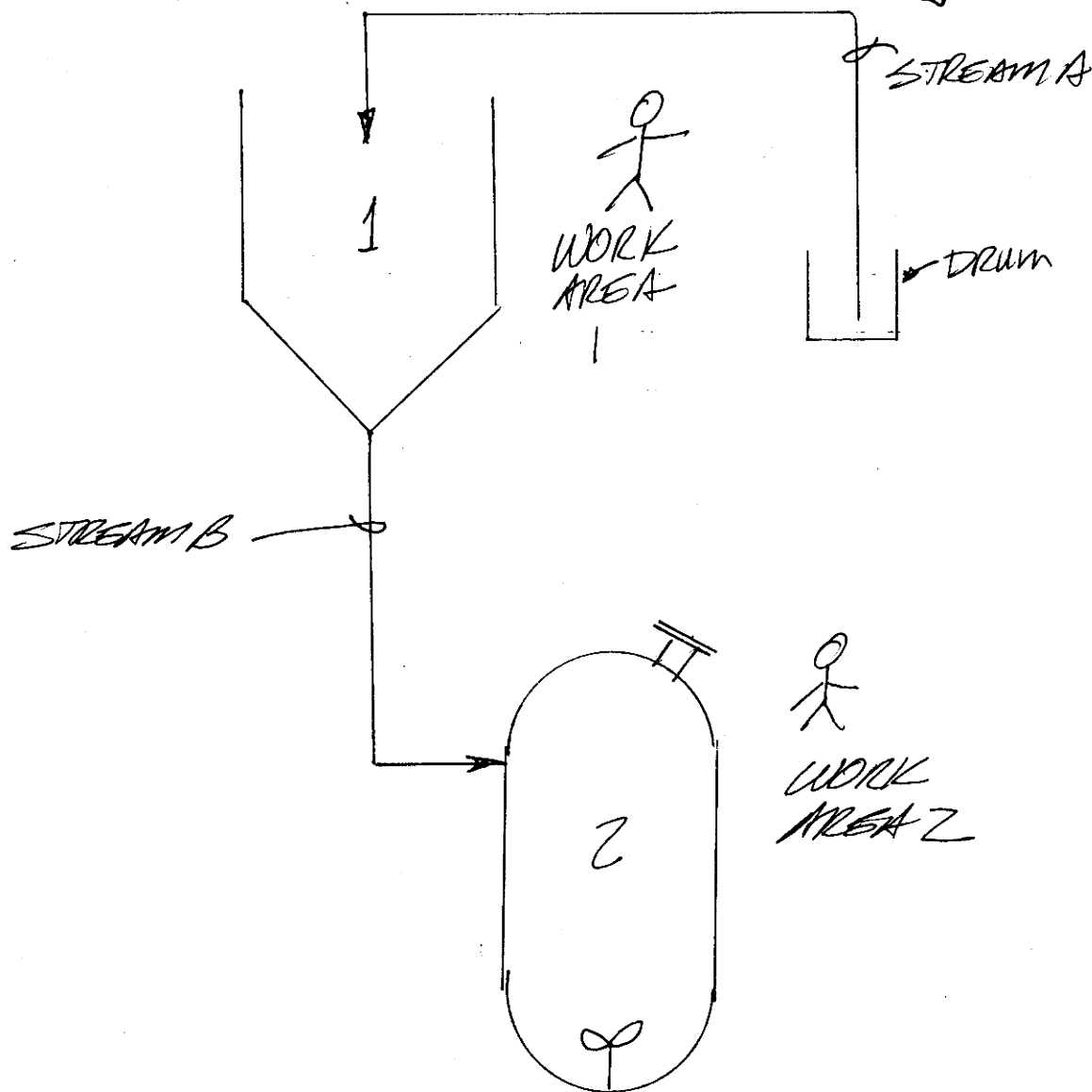
☐ Mark (X) this box if you attach a continuation sheet.



9.04 In accordance with the instructions, provide your process block flow diagram(s) and indicate associated work areas.

CBI

☐ Process type ..... Grease Manufacturing



☐ Mark (X) this box if you attach a continuation sheet.

**9.05** Describe the various work area(s) shown in question 9.04 that encompass workers who may potentially come in contact with or be exposed to the listed substance. Add any additional areas not shown in the process block flow diagram in question 7.01 or 7.02. Photocopy this question and complete it separately for each process type.

CBI

☐

Process type .....

*Batch*

Work Area ID

Description of Work Areas and Worker Activities

1

*LOADING AREA - PUMPING DRUM INTO TANK*

2

*MIXER - MIXING OF GREASE*

3

4

5

6

7

8

9

10

☐

Mark (X) this box if you attach a continuation sheet.

9-06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

10

## Work area

BATCH PROBS

Work Area # 7

<sup>1</sup>Use the following codes to designate the physical state of the listed substance at the point of exposure:

SY = Sludge or slurry  
AL = Aqueous liquid  
OL = Organic liquid  
IL = Immiscible liquid  
(specify phases, e.g.,  
90% water, 10% toluene)

<sup>2</sup>Use the following codes to designate average length of exposure per day:

D = Greater than 2 hours, but not exceeding 4 hours  
E = Greater than 4 hours, but not exceeding 8 hours  
F = Greater than 8 hours

☒ Mark (X) this box if you attach a continuation sheet.

9:07

For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

☐

Process type .....

*Batch*

Work area .....

#1

Labor Category

8-hour TWA Exposure Level  
(ppm, mg/m<sup>3</sup>, other-specify)15-Minute Peak Exposure Level  
(ppm, mg/m<sup>3</sup>, other-specify)*A**0.005 ppm**0.02 ppm STEL*☐

Mark (X) this box if you attach a continuation sheet.

# PART B WORK PLACE MONITORING PROGRAM

08 If you monitor worker exposure to the listed substance, complete the following table.

CBI

[ ]

Sample/Test	Work Area ID	Testing Frequency (per year)	Number of Samples (per test)	Who Samples <sup>1</sup>	Analyzed In-House (Y/N)	Number of Years Records Maintained
Personal breathing zone	N/A					
General work area (air)	A	Tested 6/17/87	3	A	Y	30 years
Wipe samples	N/A					
Adhesive patches	N/A					
Blood samples	N/A					
Urine samples	N/A					
Respiratory samples	N/A					
Allergy tests	N/A					
Other (specify)						
Other (specify)						
Other (specify)						

<sup>1</sup>Use the following codes to designate who takes the monitoring samples:

A = Plant industrial hygienist

B = Insurance carrier

C = OSHA consultant

D = Other (specify) \_\_\_\_\_

[ ] Mark (X) this box if you attach a continuation sheet.

9.09 For each sample type identified in question 9.08, describe the type of sampling and analytical methodology used for each type of sample.

<input type="checkbox"/> Sample Type	Sampling and Analytical Methodology
<u>Corros Sample</u>	<u>Worst Condition Sample - Tube Shows Detection</u>
_____	_____
_____	_____
_____	_____
_____	_____

9.10 If you conduct personal and/or ambient air monitoring for the listed substance, specify the following information for each equipment type used.

CBI

<input type="checkbox"/> Equipment Type <sup>1</sup>	Detection Limit <sup>2</sup>	Manufacturer	Averaging Time (hr)	Model Number
<u>Detector Tube</u>	<u>0.02 ppm</u>	<u>Draeger</u>	<u>1 min/smp.</u>	<u>N/A</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

<sup>1</sup>Use the following codes to designate personal air monitoring equipment types:

- A = Passive dosimeter
- B = Detector tube
- C = Charcoal filtration tube with pump
- D = Other (specify) \_\_\_\_\_

Use the following codes to designate ambient air monitoring equipment types:

- E = Stationary monitors located within work area
- F = Stationary monitors located within facility
- G = Stationary monitors located at plant boundary
- H = Mobile monitoring equipment (specify) \_\_\_\_\_
- I = Other (specify) \_\_\_\_\_

<sup>2</sup>Use the following codes to designate detection limit units:

- A = ppm
- B = Fibers/cubic centimeter (f/cc)
- C = Micrograms/cubic meter ( $\mu/m^3$ )

☐ Mark (X) this box if you attach a continuation sheet.

9.11 If you conduct routine medical tests for monitoring the health effects of exposure to the listed substance, specify the type and frequency of the tests.

CBI

☐

Test Description

N/A

Frequency  
(weekly, monthly, yearly, etc.)

☐ Mark (X) this box if you attach a continuation sheet.

# PART C ENGINEERING CONTROLS

9-12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐

Process type

Work area

Engineering Controls	Used (Y/N)	Year Installed	Upgraded (Y/N)	Year Upgraded
----------------------	------------	----------------	----------------	---------------

Ventilation:

Local exhaust

General dilution

Other (specify)

Vessel emission controls

Mechanical loading or packaging equipment

Other (specify)

☐

Mark (X) this box if you attach a continuation sheet.



PART C ENGINEERING CONTROLS

Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐

Process type

*Batch*

Work area

*Work Area 2*

Engineering Controls	Used (Y/N)	Year Installed	Upgraded (Y/N)	Year Upgraded
Ventilation:				
Local exhaust	<i>Y</i>	<i>1964</i>	<i>Y</i>	<i>1987</i>
General dilution				
Other (specify)				
Vessel emission controls				
Mechanical loading or packaging equipment				
Other (specify)				

☐

Mark (X) this box if you attach a continuation sheet.

Q13

Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type .....

Work area ..... WORK AREA 2 .....

Equipment or Process Modification	Reduction in Worker Exposure Per Year (%)
- <u>Replaced Vent system on</u>	<u>—</u>
<u>BATCH MIXER</u>	<u>0%</u>
	<u>—</u>
	<u>—</u>

☐ Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

1. Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐

Process type .....

Batch

Work area .....

WORK AREA #1

Equipment Types	Wear or Use (Y/N)
Respirators	Y
Safety goggles/glasses	Y
Face shields	Y
Coveralls	Y
Bib aprons	N
Chemical-resistant gloves	Y
Other (specify)	

☐

Mark (X) this box if you attach a continuation sheet.

15

If workers use respirators when working with the listed substance, specify for each process type, the work areas where the respirators are used, the type of respirators used, the average usage, whether or not the respirators were fit tested, and the type and frequency of the fit tests. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type .....

Work Area	Respirator Type	Average Usage <sup>1</sup>	Fit Tested (Y/N)	Type of Fit Test <sup>2</sup>	Frequency of Fit Tests (per year)
A	AMINE Cartridge	A	Y	QL	1/2 years
B	NONE				

<sup>1</sup>Use the following codes to designate average usage:

A = Daily  
 B = Weekly  
 C = Monthly  
 D = Once a year  
 E = Other (specify) \_\_\_\_\_

<sup>2</sup>Use the following codes to designate the type of fit test:

QL = Qualitative  
 QT = Quantitative

☐ Mark (X) this box if you attach a continuation sheet.

16 Respirator Maintenance Program -- For each type of respirator used when working with the listed substance, specify the frequency of the maintenance activity, and the person who performs the maintenance activity. Photocopy this question and complete it separately for each respirator type.

Respirator type ..... North

Respirator Maintenance Activity	Frequency <sup>1</sup>	Person Performing Activity <sup>2</sup>
Cleaning	<u>A</u>	<u>D</u>
Inspection	<u>A</u>	<u>D</u>
Replacement		
Cartridge/Canister	<u>A</u>	<u>D</u>
Respirator unit	<u>C</u>	<u>D</u>

<sup>1</sup>Use the following codes to designate the frequency of maintenance activity:

A = After each use

B = Weekly

C = Other (specify) AS REQD

<sup>2</sup>Use the following codes to designate who performs the maintenance activity:

A = Plant industrial hygienist

B = Supervisor

C = Foreman

D = Other (specify) Central Tool Room

☐ Mark (X) this box if you attach a continuation sheet.

2.17 Respirator Training Program -- Describe your respirator training and re-training programs for each type of respirator used when working with the listed substance. Photocopy this question and complete it separately for each respirator type.

a.

Respirator type .....

N/A

Type of Training <sup>1</sup>	Number of Workers Trained	Location of Training <sup>2</sup>	Length of Training (hrs)	Person Performing Training <sup>3</sup>	Frequency <sup>4</sup>
_____	_____	_____	_____	_____	_____

b.

Respirator type .....

Type of Re-training <sup>1</sup>	Number of Workers Re-trained	Location of Re-Training <sup>2</sup>	Length of Re-Training (hrs)	Person Performing Re-Training <sup>3</sup>	Frequency <sup>4</sup>
_____	_____	_____	_____	_____	_____

<sup>1</sup>Use the following codes to designate the type of training or re-training:

E = Emergency  
R = Routine

<sup>2</sup>Use the following codes to designate the location of training or re-training:

A = Outside plant instruction  
B = In-house classroom instruction  
C = On-the-job  
D = Other (specify) \_\_\_\_\_

<sup>3</sup>Use the following codes to designate the person who performs the training or re-training:

A = Plant industrial hygienist  
B = Supervisor  
C = Foreman  
D = Other (specify) \_\_\_\_\_

<sup>4</sup>Use the following codes to designate the frequency of respirator training or re-training:

A = Monthly  
B = Fixed monthly  
C = Other (specify) \_\_\_\_\_

☐ Mark (X) this box if you attach a continuation sheet.

**18** For each type of personal protective clothing and safety equipment used when working with the listed substance, indicate whether you have conducted a permeation test on the clothing or equipment for the listed substance.

Clothing and Equipment

Permeation Tests Conducted  
(Y/N)

Coveralls

N

Bib apron

N/A

Gloves

N

Other (specify)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

☐ Mark (X) this box if you attach a continuation sheet.

# PART E' WORK PRACTICES

**19** Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

CBI

☐

Process type ..... Batch

Work area ..... #1

① Safety Meeting Discussion regarding TDI, DISCUSSING MSDS and required protective equipment, hazard, etc. Meeting held monthly - TDI discussed annually as a minimum.

**9.20** Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type ..... Batch

Work area ..... #1

Housekeeping Tasks	Less Than Once Per Day	1-2 Times Per Day	3-4 Times Per Day	More Than 4 Times Per Day
Sweeping	_____	_____	_____	_____
Vacuuming	_____	_____	_____	_____
Water flushing of floors	_____	<u>X</u>	_____	_____
Other (specify)	_____	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.



9.21 Do you have a written medical action plan for responding to routine or emergency exposure to the listed substance?

Routine exposure

Yes ..... N/A ..... 1

No ..... 2

Emergency exposure

Yes ..... 1

No ..... 2

If yes, where are copies of the plan maintained?

Routine exposure: \_\_\_\_\_

Emergency exposure: \_\_\_\_\_

9.22 Do you have a written leak and spill cleanup plan that addresses the listed substance? Circle the appropriate response.

Yes ..... (1)

No ..... 2

If yes, where are copies of the plan maintained? STANDING ORDER BOOK

Has this plan been coordinated with state or local government response organizations? Circle the appropriate response.

Yes ..... (1)

No ..... 2

9.23 Who is responsible for monitoring worker safety at your facility? Circle the appropriate response.

Plant safety specialist ..... 1

Insurance carrier ..... 2

OSHA consultant ..... 3

Other (specify) SUPERVISOR ..... (4)

☐ Mark (X) this box if you attach a continuation sheet.

9.24 Who is responsible for safety and health training at your facility? Circle the appropriate response.

- Plant safety specialist ..... *N/A* ..... 1
- Insurance carrier ..... 2
- OSHA consultant ..... 3
- Other (specify) \_\_\_\_\_ ..... 4

9.25 Who is responsible for the medical program at your facility? Circle the appropriate response.

- Plant physician ..... *N/A* ..... 1
- Consulting physician ..... 2
- Plant nurse ..... 3
- Consulting nurse ..... 4
- Other (specify) \_\_\_\_\_ ..... 5

☐ Mark (X) this box if you attach a continuation sheet.

## SECTION 10 ENVIRONMENTAL RELEASE

### General Instructions:

Complete Part E (questions 10.23-10.35) for each non-routine release involving the listed substance that occurred during the reporting year. Report on all releases that are equal to or greater than the listed substance's reportable quantity value, RQ, unless the release is federally permitted as defined in 42 U.S.C. 9601, or is specifically excluded under the definition of release as defined in 40 CFR 302.3(22). Reportable quantities are codified in 40 CFR Part 302. If the listed substance is not a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and, thus, does not have an RQ, then report releases that exceed 2,270 kg. If such a substance however, is designated as a CERCLA hazardous substance, then report those releases that are equal to or greater than the RQ. The facility may have answered these questions or similar questions under the Agency's Accidental Release Information Program and may already have this information readily available. Assign a number to each release and use this number throughout this part to identify the release. Releases over more than a 24-hour period are not single releases, i.e., the release of a chemical substance equal to or greater than an RQ must be reported as a separate release for each 24-hour period the release exceeds the RQ.

For questions 10.25-10.35, answer the questions for each release identified in question 10.23. Photocopy these questions and complete them separately for each release.

### PART A GENERAL INFORMATION

**10.01** Where is your facility located? Circle all appropriate responses.

#### CBI

- ☐ Industrial area ..... 1
- Urban area ..... 2
- Residential area ..... 3
- Agricultural area ..... 4
- Rural area ..... 5
- Adjacent to a park or a recreational area ..... 6
- Within 1 mile of a navigable waterway ..... 7
- Within 1 mile of a school, university, hospital, or nursing home facility ..... 8
- Within 1 mile of a non-navigable waterway ..... 9
- Other (specify) \_\_\_\_\_ 10

☐ Mark (X) this box if you attach a continuation sheet.

**10.02** Specify the exact location of your facility (from central point where process unit is located) in terms of latitude and longitude or Universal Transverse Mercader (UTM) coordinates.

Latitude ..... 38° 56' 15"

Longitude ..... 122° 23' 00"

UTM coordinates ..... Zone \_\_\_\_\_, Northing \_\_\_\_\_, Easting \_\_\_\_\_

**10.03** If you monitor meteorological conditions in the vicinity of your facility, provide the following information

Average annual precipitation ..... N/A inches/year

Predominant wind direction ..... \_\_\_\_\_

**10.04** Indicate the depth to groundwater below your facility.

Depth to groundwater ..... N/A meters

**10.05** For each on-site activity listed, indicate (Y/N/NA) all routine releases of the listed substance to the environment. (Refer to the instructions for a definition of Y, N, and NA.)

**CBI**

☐

On-Site Activity	Environmental Release		
	Air	Water	Land
Manufacturing			
Importing			
Processing	<u>Y</u>	<u>N</u>	<u>N</u>
Otherwise used			
Product or residual storage	<u>N</u>	<u>N</u>	<u>N</u>
Disposal	<u>N</u>	<u>N</u>	<u>Y</u>
Transport	<u>N</u>	<u>N</u>	<u>N</u>

☐ Mark (X) this box if you attach a continuation sheet.

**10.06** Provide the following information for the listed substance and specify the level of precision for each item. (Refer to the instructions for further explanation and an example.)

CBI

☐

Quantity discharged to the air .....	<u>N/A</u>	kg/yr ± ____ %
Quantity discharged in wastewaters .....	<u>N/A</u>	kg/yr ± ____ %
Quantity managed as other waste in on-site treatment, storage, or disposal units .....	<u>N/A</u>	kg/yr ± ____ %
Quantity managed as other waste in off-site treatment, storage, or disposal units .....	<u>N/A</u>	kg/yr ± ____ %

☐ Mark (X) this box if you attach a continuation sheet.

Complete the following table for each process stream containing the listed substance as identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each process type.

[ ]

[illegible]

<sup>1</sup>Use the following codes to designate the media affected:

A = Air  
B = Land  
C = Groundwater  
D = POTW  
E = Navigable waterway  
F = Non-navigable waterway  
G = Other (specify)

<sup>2</sup>Specify the average amount of listed substance released to the environment and use the following codes to designate the units used to measure the release:

A = kg/day  
B = kg/batch

☐ Mark (X) this box if you attach a continuation sheet.

# PART C FUGITIVE EMISSIONS

**10.13** Equipment Leaks -- Complete the following table by providing the number of equipment types listed which are exposed to the listed substance and which are in service according to the specified weight percent of the listed substance passing through the component. Do this for each process type identified in your process block or residual treatment block flow diagram(s). Do not include equipment types that are not exposed to the listed substance. If this is a batch or intermittently operated process, give an overall percentage of time per year that the process type is exposed to the listed substance. Photocopy this question and complete it separately for each process type.

CBI

☐

Process type .....

*BATCH STREAM #1*

Percentage of time per year that the listed substance is exposed to this process type ..... *N/A* %

Equipment Type	Number of Components in Service by Weight Percent of Listed Substance in Process Stream					Greater than 99%
	Less than 5%	5-10%	11-25%	26-75%	76-99%	
Pump seals <sup>1</sup>						
Packed			<i>1</i>			
Mechanical			<i>-</i>			
Double mechanical <sup>2</sup>			<i>-</i>			
Compressor seals <sup>1</sup>			<i>-</i>			
Flanges			<i>4</i>			
Valves						
Gas <sup>3</sup>			<i>-</i>			
Liquid						
Pressure relief devices <sup>4</sup> (Gas or vapor only)			<i>-</i>			
Sample connections						
Gas			<i>-</i>			
Liquid			<i>-</i>			
Open-ended lines <sup>5</sup> (e.g., purge, vent)						
Gas			<i>-</i>			
Liquid			<i>1</i>			

<sup>1</sup>List the number of pump and compressor seals, rather than the number of pumps or compressors

10.13 continued on next page

☐

Mark (X) this box if you attach a continuation sheet.

10.13 (continued)

- <sup>2</sup>If double mechanical seals are operated with the barrier (B) fluid at a pressure greater than the pump stuffing box pressure and/or equipped with a sensor (S) that will detect failure of the seal system, the barrier fluid system, or both, indicate with a "B" and/or an "S", respectively
- <sup>3</sup>Conditions existing in the valve during normal operation
- <sup>4</sup>Report all pressure relief devices in service, including those equipped with control devices
- <sup>5</sup>Lines closed during normal operation that would be used during maintenance operations

**10-14** Pressure Relief Devices with Controls -- Complete the following table for those pressure relief devices identified in 10.13 to indicate which pressure relief devices in service are controlled. If a pressure relief device is not controlled, enter "None" under column c.

[illegible]

<sup>1</sup>Refer to the table in question 10.13 and record the percent range given under the heading entitled "Number of Components in Service by Weight Percent of Listed Substance" (e.g., <5%, 5-10%, 11-25%, etc.)

<sup>2</sup>The EPA assigns a control efficiency of 100 percent for equipment leaks controlled with rupture discs under normal operating conditions. The EPA assigns a control efficiency of 98 percent for emissions routed to a flare under normal operating conditions

☐ Mark (X) this box if you attach a continuation sheet.



10-15 Equipment Leak Detection -- If a formal leak detection and repair program is in place, complete the following table regarding those leak detection and repair procedures. Photocopy this question and complete it separately for each process type.

CBI

☐

Process type ..... *None* .....

Equipment Type	Leak Detection	Detection Device	Frequency of Leak Detection (per year)	Repairs Initiated (days after detection)	Repairs Completed (days after initiated)
	Concentration (ppm or mg/m <sup>3</sup> ) Measured at _____ Inches from Source				
Pump seals					
Packed	_____	_____	_____	_____	_____
Mechanical	_____	_____	_____	_____	_____
Double mechanical	_____	_____	_____	_____	_____
Compressor seals	_____	_____	_____	_____	_____
Flanges	_____	_____	_____	_____	_____
Valves					
Gas	_____	_____	_____	_____	_____
Liquid	_____	_____	_____	_____	_____
Pressure relief devices (gas or vapor only)	_____	_____	_____	_____	_____
Sample connections					
Gas	_____	_____	_____	_____	_____
Liquid	_____	_____	_____	_____	_____
Open-ended lines					
Gas	_____	_____	_____	_____	_____
Liquid	_____	_____	_____	_____	_____

<sup>1</sup>Use the following codes to designate detection device:

POVA = Portable organic vapor analyzer

FPM = Fixed point monitoring

0 = Other (specify) \_\_\_\_\_

☐

Mark (X) this box if you attach a continuation sheet.

## APPENDIX E: List of Continuation Sheets

Attach continuation sheets for sections of this form and optional information after this page. In column 1, clearly identify the continuation sheet by listing the question number to which it relates. In column 2, enter the inclusive page numbers of the continuation sheet for each question number.

[illegible]

☐ Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question CBI and complete it separately for each process type and work area.

☐ Process type ..... BATCH PROCESS  
 Work area ..... WORK AREA #2

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance <sup>1</sup>	Average Length of Exposure Per Day <sup>2</sup>	Number of Days per Year Exposed
<u>A</u>	<u>1</u>	<u>DIRECT SKIN INHALATION</u>	<u>OL</u>	<u>E</u>	<u>330</u>

<sup>1</sup>Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)	SY = Sludge or slurry
GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)	AL = Aqueous liquid
SO = Solid	OL = Organic liquid
	IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

<sup>2</sup>Use the following codes to designate average length of exposure per day:

A = 15 minutes or less	D = Greater than 2 hours, but not exceeding 4 hours
B = Greater than 15 minutes, but not exceeding 1 hour	E = Greater than 4 hours, but not exceeding 8 hours
C = Greater than one hour, but not exceeding 2 hours	F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

**CBI**

[ ]

Process type .....

Batch

Work area

#2

A handwritten signature in black ink, appearing to be "A." followed by a stylized flourish.

0.005 FPM

0.02 PPM STEL

☐ Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... Batch  
Work area ..... WORK AREA #2.....

Equipment Types	Wear or Use (Y/N)
Respirators	<u>N</u>
Safety goggles/glasses	<u>Y</u>
Face shields	<u>N</u>
Coveralls	<u>Y</u>
Bib aprons	<u>N</u>
Chemical-resistant gloves	<u>Y</u>
Other (specify)	
_____	_____
_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

# PART E WORK PRACTICES

**19** Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

CBI

☐

Process type .....

*Batch*

Work area .....

*#2*

*Safety meeting DISCUSSIONS.*

**9.20** Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type .....

*Batch*

Work area .....

*#2*

Housekeeping Tasks	Less Than Once Per Day	1-2 Times Per Day	3-4 Times Per Day	More Than 4 Times Per Day
Sweeping				
Vacuuming				
Water flushing of floors		X		
Other (specify)				

☐ Mark (X) this box if you attach a continuation sheet.

# 10.13 FUGITIVE EMISSIONS

10.13 Equipment Leaks -- Complete the following table by providing the number of equipment types listed which are exposed to the listed substance and which are in service according to the specified weight percent of the listed substance passing through the component. Do this for each process type identified in your process block or residual treatment block flow diagram(s). Do not include equipment types that are not exposed to the listed substance. If this is a batch or intermittently operated process, give an overall percentage of time per year that the process type is exposed to the listed substance. Photocopy this question and complete it separately for each process type.

CBI

☐

Process type .....

*Batch Stream 2*

Percentage of time per year that the listed substance is exposed to this process type ..... %

Number of Components in Service by Weight Percent  
of Listed Substance in Process Stream

Equipment Type	Less than 5%	5-10%	11-25%	26-75%	76-99%	Greater than 99%
Pump seals <sup>1</sup>						
Packed	<u>1</u>					
Mechanical	<u>-</u>					
Double mechanical <sup>2</sup>	<u>-</u>					
Compressor seals <sup>1</sup>	<u>-</u>					
Flanges	<u>10</u>					
Valves						
Gas <sup>3</sup>	<u>-</u>					
Liquid	<u>3</u>					
Pressure relief devices <sup>4</sup> (Gas or vapor only)	<u>-</u>					
Sample connections						
Gas	<u>-</u>					
Liquid	<u>-</u>					
Open-ended lines <sup>5</sup> (e.g., purge, vent)						
Gas	<u>-</u>					
Liquid	<u>1</u>					

<sup>1</sup>List the number of pump and compressor seals, rather than the number of pumps or compressors

10.13 continued on next page

☐

Mark (X) this box if you attach a continuation sheet.

# MATERIAL SAFETY DATA SHEET



## Polyurethanes

Rubicon Chemicals Inc.

Wilmington, Delaware 19897

Phone (302) 575-3000 (24 Hours)

002290

Form No.: 3153(E)

Date: 04/29/87

### SECTION 1 NAME & HAZARD SUMMARY

Material name:

RUBINATE TDI

TOLUENE Diisocyanate

Hazard summary (as defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200):

Physical hazards: Unstable

Health hazards: Inhalation (TLV), irritant (skin, mucous membranes, skin sensitizer), corrosive (eye), harmful (respiratory sensitizer, lung injury)

Read the entire MSDS for a more thorough evaluation of the hazards.

### SECTION 2 INGREDIENTS

Toluene diisocyanate, 2,4-isomer (CAS 584-84-9)

%

TLV (ACGIH)

ca 80 0.005 ppm

Toluene diisocyanate, 2,6-isomer (CAS 91-08-7)

ca 20 Not listed

Ingredients not precisely identified are proprietary or nonhazardous. All ingredients appear on the EPA TSCA Inventory. Values are not product specifications. gt = greater than, lt = less than, ca = approximately

### SECTION 3 PHYSICAL DATA

Boiling point: 484°F, 251°C

Vapor pressure (mmHg at 20°C): 0.02

Vapor density (air = 1): 6.0

Solubility in water: Reacts

pH: Not applicable

Specific gravity: 1.22

% Volatile by volume: Negligible

Appearance and odor: Clear colorless liquid with sharp pungent odor

### SECTION 4 FIRE AND EXPLOSION HAZARD DATA

Flash point (and method): 270°F, 132.2°C (open cup)

Autoignition temp.: No data

Flammable limits (STP): 0.9 - 9.5%

Extinguishing media:

Dry chemical, foam, carbon dioxide, halon 1211. If water is used, use very large quantities. The reaction between water and hot isocyanate may be vigorous.

Special fire fighting protective equipment:

Self-contained breathing apparatus with full facepiece and protective clothing.

Unusual fire and explosion hazards:

Water contamination will produce carbon dioxide. Do not reseal contaminated containers as pressure buildup may rupture them.



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**SECTION 5 REACTIVITY DATA**

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**Stability:**

Stable under normal conditions.

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**Incompatibility (materials to avoid):**

This product will react with any materials containing active hydrogens, such as water, alcohol, ammonia, amines, alkalis. The reaction with water is very slow below 50°C but is accelerated at higher temperatures and in the presence of alkalis, tertiary amines, and metal compounds. Some reactions can be violent.

---

**Hazardous decomposition products:**

Combustion products: Carbon dioxide, carbon monoxide, nitrogen oxides, traces of hydrogen cyanide.

---

**Hazardous polymerization:**

May occur. High temperatures and the presence of alkalis, tertiary amines, and metal compounds will accelerate polymerization. The heat from the polymerization reaction can potentially lead to ignition. Possible evolution of carbon dioxide gas may rupture closed containers.

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**SECTION 6 HEALTH HAZARD ASSESSMENT**

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**General:**

The health hazard assessment is based on information from the scientific literature.

---

**Ingestion:**

The acute oral LD<sub>50</sub> in rat is reported to be 5.8 g/kg. Relative to other materials, a single dose of this product is practically nontoxic by ingestion. Irritation of the mouth, pharynx, esophagus and stomach can develop following ingestion.

---

**Eye contact:**

This material is reported to induce chemical burns in rabbit eye studies; a similar degree of eye injury will probably develop after contact with human eyes.

---

**Skin contact:**

This material is reported to be severely irritating in rabbit dermal irritation studies and will probably irritate human skin. Dermatitis and skin sensitization can develop after repeated and/or prolonged contact with human skin.

---

**Skin absorption:**

The acute dermal LD<sub>50</sub> in rabbit is reported to be above 16 g/kg. Systemically toxic concentrations will probably not be absorbed through human skin.

---

**Inhalation:**

TDI vapors are easily generated and are lethal to rats via inhalation at concentrations below 10 ppm. A no effect level for rats of about 0.1 ppm was determined from a subacute study. This and other data indicate the vapors and aerosols of TDI are highly toxic relative to the vapors of other compounds. Vapors and aerosols of TDI strongly irritate the upper and lower respiratory tract. Human experience indicates that TDI will induce an asthma-like respiratory sensitization in some individuals. If applications which involve spraying (e.g. aerosols and mists) or if elevated temperatures are used, even higher vapor concentrations may result and introduce a greater degree of risk of inhalation injury.

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**SECTION 7 SPILL OR LEAK PROCEDURES (continued)**

**Disposal method:**

Slowly stir the isocyanate into the decontamination solution described above, using 10 parts of solution for each part of isocyanate. Let stand for 48 hours, allowing the evolved carbon dioxide to vent away. Neutralize the waste. If all the TDI material has been decontaminated, then neither the liquid nor the solid portions of waste are hazardous wastes under RCRA 40 CFR 261.

**Container disposal:**

Drums must be decontaminated in properly ventilated areas by personnel protected from the inhalation hazards of isocyanate vapors.

1. Fill drum with decontamination solution described above, making sure all contaminated areas are in contact with the decontamination solution.
2. Leave drum soaking unsealed for 48 hours.
3. Drain liquid decontaminant into storage container. Decontamination solution can be used several times. Neutralize spirit decontamination solution and dispose of in a sewer serviced by a wastewater treatment facility. Triple rinse empty container and pour rinse solution into drain or sewer serviced by a wastewater treatment facility.
4. Puncture or otherwise destroy container before disposal.

**SECTION 8 SPECIAL PROTECTION INFORMATION**

**TLV or suggested control value:**

The ACGIH TLV is 0.005 ppm, 0.02 ppm ceiling. NIOSH recommends 0.005 ppm TWA and 0.02 ppm STEL (Short Term Exposure Limit). The OSHA PEL is 0.02 ppm.

The control values do not apply to sensitized individuals. Sensitized individuals should be removed from further exposure.

**Ventilation:**

Use local exhaust to keep exposures to a minimum.

**Respiratory protection (specify type):**

If necessary, use a MSHA-NIOSH approved positive pressure supplied air respirator with a full face piece. For emergencies use a positive pressure self-contained breathing apparatus.

**Protective clothing:**

Take all precautions to prevent skin contact. Use impervious gloves, arm covers and apron. Additional protection, such as full body suit and boots, may be required depending on conditions.

**Eye protection:**

Chemical tight goggles and full faceshield.

**Other protective equipment:**

Eyewash station and safety shower in work area.

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SECTION 9 SPECIAL PRECAUTIONS OR OTHER COMMENTS

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Precautions to be taken in handling or storing:

Prevent skin and eye contact. Observe TLV limitations. Avoid breathing vapors or aerosols. A sensitized individual should not be exposed to the product which caused the sensitization. Store in tightly sealed containers to protect from atmospheric moisture. Provide a dry nitrogen pad if stored in bulk. Store at a temperature of 60-100°F.

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The information herein is given in good faith  
but no warranty, expressed or implied, is made.



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Dept.

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